

Book Review

**PERSPECTIVES IN PEDIATRIC PATHOLOGY,
VOL. 16: PEDIATRIC MOLECULAR PATHOLOGY:
QUANTITATION AND APPLICATIONS**

Garvin AJ, O'Leary TJ, Bernstein J, Rosenberg HS, eds., Karger, 1995, pp. 170

This volume begins with the section *Founders of Pediatric Pathology*, which is a tribute to Professor John Emery of Sheffield, Great Britain, a truly great man who, together with Sidney Farber, can be called a father of pediatric pathology. His contributions to pediatric pathology, and especially to sudden infant death syndrome (which he has sacrilegiously called a "dust-bin"), his courage in speaking out on controversial issues, and his advocacy for children have earned him the love and high esteem in which he has been held by his colleagues. Dr. Cameron has written an excellent profile of John Emery, but he failed to mention that his strong convictions as a pacifist and concern for human life precluded him from receiving a knighthood that he has so clearly deserved.

Pediatric molecular pathology includes five chapters. "Molecular and Histologic Analysis of Embryonic Development" written by David P. White, Bruce J. Aronow, and Judith A. K. Harmony, discusses the use of molecular techniques to identify and clone inducer and promoters of angiogenesis—predictions made in 1992 are reality now in 1996. Except for *in situ* hybridization, no other molecular techniques are evaluated. This chapter includes 127 references, mostly 1988–90. There are no charts, tables, or diagrams, but two color plates have good illustrations.

The second chapter, "Peripheral Primitive Neuroectoderm Tumors" by Maria Tsokos, attempts to distinguish neuroblastoma from PNET by molecular methods. It devotes pages and pages to histology, EM, and immunohistochemistry, but fewer pages to molecular techniques used to discriminate between these various PNET tumors. Mention is made of t(11;22) but no explanation for its consistent findings in Ewing sarcoma, extraosseous Ewing sarcoma, and Askin tumor. There are 397 references (1988–91) with a few good microscopic pictures; no molecular pictures. However, much has been done since 1992 making this chapter somewhat outdated.

The third chapter: "Application of the Polymerase Chain Reaction to Archival Material" by Beverly B.

Rogers, gives a good explanation of basic PCR techniques and drawings as well as different methods for evaluating DNA products. Mention is made of pitfalls of DNA analysis in paraffin tissue, such as loss of DNA, degradation of DNA by fixation or inhibitors in tissue particularly due to the type and duration of fixation, and variables that most likely adversely affect DNA amplification. Practical implications of PCR for retrospective research and inherent problems associated with it are included. The chapter concludes with appendices outlining step-by-step instructions for DNA extracts. It contains 32 references (1989–91). Again, many advances in these techniques have occurred since 1992.

The fourth chapter by Robert Bolande, "A Natural Immune System in Pregnancy Serum Lethal to Human Neuroblastoma Cells: A Possible Mechanism of Spontaneous Regression," is interesting, but I am not sure how it relates to a book on molecular pathology. This chapter includes 35 references, most of which are the author's own references.

The last chapter, "Quantitative Methods in Pediatric Pathology" by Karen Schmidt and Carlo Pesce, emphasizes image analysis and the essential steps in research design for morphometry, densitometry, and three-dimensional reconstructions. These techniques are interesting as research tools. There are 90 references but none since 1990.

In summary, all the chapters are well written, but the core of advances in molecular pathology is happening at the genetic/DNA level, and this is where the focus should be. This monograph does not fully explore the potential of diagnosing or understanding pediatric disease at the DNA level. Unfortunately, this book is already somewhat outdated since the field is advancing so rapidly; however, some basic knowledge can be gleaned from these writings and should be helpful to pediatric pathologists and possibly to medical geneticists.

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